SHORT NOTES

OBSERVATIONS ON PERCH USE IN TWO LIZARDS (ANOLIS SCRIPTUS AND LEIOCEPHALUS PSAMMODROMUS)

GEOFFREY R. SMITH
School of Biological Sciences, 348 Manter Hall, University of Nebraska, Lincoln, Nebraska 68588 USA

Schoener (1975) and Schoener & Adler (1991) briefly noted the relationships of Leiocephalus spp. and Anolis spp. in the Bahamas; however, these studies did not provide a detailed, quantitative assessment of the microhabitat use of these species, but they do suggest there are differences in how these species use their environment. Here I examine perch use patterns of two sympatric lizards (Anolis scriptus and Leiocephalus psammodromus) on Pine Cay in the Turks and Caicos Islands, British West Indies.

Anolis scriptus is distributed throughout the Turks and Caicos Islands, as well as the Bahamas (Schwartz & Henderson, 1991). Very little has been published on this lizard except for a description of perch use on Inagua in the Bahamas (Laska, 1970). Leiocephalus psammodromus is distributed throughout the Turks and Caicos Islands (Schwartz & Henderson, 1991). It is sexually dimorphic (Smith, 1992), and is reproductive from April to November (Smith & Iverson, 1993).

Pine Cay is a small (350 ha), relatively low (highest point < 3 m above mean sea level) island found in the Caicos Islands at the southeastern end of the Bahamian archipelago. The island is primarily covered with "dense scrub" and "mixed woodlands", however, "open scrub" and "beach" habitats are prevalent on the leeward coast (see Iverson, 1979 for a more detailed description of the island).

I made observations on Pine Cay between 13 July and 28 July 1991. Observations were made from 0700 to 1800 EDT. However, lizards were not individually marked to reduce the influence of the human observer on their behavior (see Marcellini & Jenssen, 1991). Therefore, I only use one day's data (22 July) to ensure that all observations are independent of each other. Because I did not sample an area more than once a day, each observation represents a different individual. I walked slowly along the edge of a path or road, or along the beach, looking for lizards. Upon observing a lizard, I recorded the species, time, and several characteristics of the perch. Substrate characteristics recorded were: (1) rock, (2) litter, (3) bare ground or sand, (4) on tree, (5) on wall, and (6) other. In addition, I noted whether the lizard was using an open or covered perch, and whether the lizard was in full sun, in a sun-shade mosaic, or in full shade. In some cases, one or more perch characteristic was not recorded.

Leiocephalus inagua (see Schwartz & Henderson, 1991) and the data presented here suggest differences in habitat use. A second possible explanation is that each species has a
set of specific physiological, nutritional, or social requirements, and their microhabitat and habitat use patterns are simply reflections of these requirements (see Barbault, 1991). For example, use of different microhabitats during the day may result from thermoregulation (e.g., Davis & Verbeek, 1972; Carrascal & Diaz, 1989; Marcellini & Jenssen, 1989; Castilla & Bauwens, 1991).

While the present study cannot provide direct answers to whether or not competition is occurring or whether abiotic factors are influencing the interaction (or lack thereof), it does suggest that an investigation into the mechanism(s) driving perch use and selection in these two species would be valuable in understanding their ecology.

ACKNOWLEDGEMENTS

I thank J. Garis, manager of the Meridian Club, P. Neis & the residents of Pine Cay for their assistance and hospitality during my stay on Pine Cay. J. Iverson generously provided his field notes. R. Ballinger, D. J. Bullock, R. A. Griffiths, T. Joern, J. Rowe & anonymous reviewers provided helpful comments on earlier versions of this manuscript. Support was provided by a National Science Foundation predoctoral fellowship, a Gaige Fund award from the American Society of Ichthyologists and Herpetologists, the H. Holck fund of the UNL School of Biological Sciences, and T. & J. Smith.

REFERENCES


Accepted: 6.1.95